

Remarks

In the application, claims 11 through 18 are pending. No claims currently stand allowed.

The Office Action dated February 2, 2004, has been carefully considered. Claims 11, 12, and 14 are provisionally rejected under the doctrine of obviousness-type double patenting in light of U.S. Patent Application 10/074,286 and U.S. Patent 5,801,717 (“Engstrom”). Claims 11 through 18 are rejected under 35 U.S.C. § 103(a) as obvious in light of Engstrom.

While Engstrom discusses the display flipping chain well known in the art, Engstrom does not discuss a second, or “overlay,” flipping chain as called for in the presently pending independent claims:

Claim 11. a presentation surface set associated with the display device, the presentation surface set comprising a presentation flipping chain and *an overlay flipping chain*, the presentation flipping chain comprising a primary presentation surface and a presentation back buffer, *the overlay flipping chain comprising an overlay primary surface and an overlay back buffer*; and

(Emphasis added.) (Claims 15, 16, and 18 contain similar language.) This second flipping chain is a novel aspect of the present invention and is described in the specification as follows:

V. The Augmented Primary Surface

[0070] Multiple display surfaces may be used simultaneously to drive the display device 102. Figure 9 shows the configuration and Figure 10 presents an exemplary method. In step 1000, the display interface driver 900 (usually implemented in hardware) initializes the presentation surface set 110 and an overlay surface set 902. In step 1002, the display interface driver reads display information from both the primary presentation surface 104 and from the overlay primary surface 904. Then in step 1004, the display information from these two sources are merged together. The merged information creates the next display frame which is delivered to the display device in step 1006. The buffers in the presentation surface set and in the overlay surface set are flipped and the loop continues back at step 1002.

[0071] The key to this procedure is the merging in step 1004. Many types of merging are possible, depending upon the requirements of the system. As one example, the display interface driver 900 could compare pixels in the primary presentation surface 104 against a color key. For pixels that match the color key, the corresponding pixel is read from the overlay primary surface 904 and sent to the display device 102. Pixels that do not match the color key are sent unchanged to the display device. This is called "destination color-keyed overlay." In another form of merging, an alpha value specifies the opacity of each pixel in the primary presentation surface. For pixels with an alpha of 0, display information from the primary presentation surface is used exclusively. For pixels with an alpha of 255, display information from the overlay primary surface 904 is used exclusively. For pixels with an alpha between 0 and 255, the display information from the two surfaces are interpolated to form the value displayed. A third possible merging associates a Z order with each pixel that defines the precedence of the display information.

[0072] Figure 9 shows graphics arbiter 400 providing information to the presentation back buffer 108 and the overlay back buffer 906. Preferably, the graphics arbiter 400 is as described in Sections III and IV above. However, the augmented primary surface mechanism of Figure 9 also provides advantages when used with less intelligent graphics arbiters, such as those of the prior art. Working with any type of graphics arbiter, this "back end composition" of the next display frame significantly increases the efficiency of the display process.

Specification, pages 22 through 23. In the sections of Engstrom cited against this second flipping chain, Engstrom teaches using overlay surfaces along with the display flipping chain, but Engstrom does not put those overlay surfaces into a second flipping chain used in parallel with a primary flipping chain. Therefore claim 11 is novel over Engstrom. As all pending independent claims include this second, or "overlay," flipping chain, all pending claims are patentable over Engstrom.

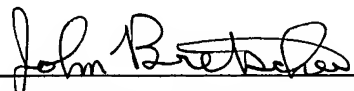
For similar reasons, Applicants respectfully disagree with the obviousness-type double patenting rejection. Neither Engstrom nor the claims of U.S. Patent Application 10/074,286 includes the secondary, or "overlay," flipping chain included in all independent claims pending in the present application. Thus, there is no double patenting, of obviousness-type or otherwise.

In re Application of: Wilt et al.
Serial Number: 10/077,568

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersign attorney.

Respectfully submitted,



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